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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,184	07/03/2001	Nicol Chung Pang So	018926-006610US	9607

20350 7590 01/12/2005

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EXAMINER

DADA, BEEMNET W

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/898,184

Applicant(s)

SO ET AL.

Examiner

Beemnet W Dada

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 and 40-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 and 40-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 3, 4, 8, 10, 12, 13, 17, 19 and 24 have been amended, claims 38 and 39 have been cancelled and new claims 41-42 have been added on an amendment filed on August 27, 2004. Claims 1-37 and 40-42 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colligan et al US Patent 6,415,031 B1 (hereinafter Colligna) in view of Candelore US Patent 6,363,149 B1.

4. As per claims 1 and 41, Colligan discloses a system for delivering content to a subscriber terminal on-demand through a communication network (see for example; abstract and fig 4), the system comprising:

a content preparation module for pre-encrypting the content offline to form pre-encrypted content (see for example; col 6 ln 57-65 and col 8 ln 7-42)

an on-demand module receiving the pre-encrypted content from the content preparation module (see for example; remote server fig 4 and col 6 ln 57-65), for storing, and transmitting the pre-encrypted content to the subscriber terminal when authorized (see for example; col 7 ln 20-34);

and a conditional access system for providing a periodical key to the encryption renewal system (see for example; col 4 ln 44-59 and col 8 ln 47-58).

Colligan further discloses a renewal encryption system to generate control messages allowing the pre-encrypted content to be decryptable for a designated duration (see for example; col 8 ln 41-56 and col 9 ln 11-16). Colligan does not explicitly teach an encryption renewal system generating time limited entitlement control messages (ECMs) allowing the pre-encrypted content to be decryptable for a time limited designated duration. Colligan discloses a means of decrypting by providing information on creating the decryption key (see for example; col 7 ln 27-34) and that there is a need to provide access restriction due to billing for premium channels (see for example; col 4 ln 44-59).

However, Candelore teaches a system for generating time limited entitlement control messages for decrypting an encrypted content for a time limited designated duration without requiring decryption of encrypted content [column 10, lines 42-67]. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of generating time limited entitlement control messages (ECM) as taught by Candelore within the system of Colligna in order to allow decryption of content for a certain period of time and further provide time limited ECMs to be used for past, present or future time period decryption of content according to assigned time periods.

5. As per claims 2 and 42, Colligan-Candelore discloses the claimed limitations as described above (see claim 1). Colligan further discloses system wherein communication network is a cable network for distributing audio/video content from a cable central office to all or a subset of subscriber terminals (see for example; fig 4 and col 3 ln 50-65).

6. Claims 3, 5-14, 17-20, 22-24 and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram US PUB 2003/0140340 A1 in view of Candelore US Patent 6,363,149 B1.

7. As per claims 3 and 20, Bertram discloses a method of delivering content from one or more cable systems to subscriber terminals within the cable systems (see for example; abstract and fig 1), the cable systems being communicatively coupled to an offline encryption device (see for example; 130 fig 1), the method comprising;

receiving by a first cable system, a request for the content from a first subscriber terminal of the first cable system (see for example; 407 fig 4 and paragraphs 51-52),

pre-encrypting, by the offline encryption device, the content to form pre-encrypted content prior to the step of receiving a request (see for example; paragraph 63);

generating an encryption record containing parameters employed for encrypting the content; based on the encryption record and a first key information (see for example; encryption algorithm, paragraphs 45-46; an encryption record must be generated in order to carry out encryption and carry out synchronization with the generation of descrambling messages) generating one or more control messages for permitting access to the pre-encrypted content (see for example; paragraphs 46-47); and transmitting the pre-encrypted content associated with the one or more control messages to the first subscriber terminal for decryption of the pre-

encrypted content (see for example; paragraphs 31 and 47). Bertram does not explicitly teach generating time limited control messages for permitting access to the pre-encrypted content. However, Candelore teaches a system for generating time limited entitlement control messages for decrypting an encrypted content for a time limited designated duration [column 10, lines 42-67]. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of generating time limited entitlement control messages (ECM) as taught by Candelore within the system of Bertram in order to allow decryption of content for a certain period of time and further provide time limited ECMs to be used for past, present or future time period decryption of content according to assigned time periods.

8. As per claim 17, Bertram discloses pre-encrypting, by the offline encryption device, the content to form pre-encrypted content prior to the step of receiving a request (see for example; paragraph 63);

generating an encryption record containing parameters employed for encrypting the content; based on the encryption record and a first key information (see for example; encryption algorithm, paragraphs 45-46; an encryption record must be generated in order to carry out encryption and carry out synchronization with the generation of "descrambling" messages) generating one or more entitlement messages for permitting access that allow decryption of the content (see for example; paragraphs 46-47);

a conditional access system that allows for providing information included in the entitlement messages by the means for generating (see for example; paragraph 47) and transmitting the pre-encrypted content associated with the one or more control messages to the first subscriber terminal for decryption of the pre-encrypted content (see for example;

paragraphs 31 and 47) and means for receiving the pre-encrypted content from the means for pre-encrypting (see for example; fig 1 and paragraph 29), forwarding the records to the means for generating which generates the first and second entitlement messages for forwarding to the subscriber terminal (see for example; paragraph 62-63 the encryption record must be forwarded in order to generate corresponding entitlement messages used by the conditional access system).

As for a first and second content, Bertram discloses encryption of different content (see for example; paragraph 60). However, Bertram is silent on the means of encrypting the second content. The means of encrypting further content by the same means would have been obvious to one of ordinary skill in the art at the time of the applicant's invention because it would have allowed for encryption of different content without changing system architecture. Therefore, one of ordinary skill in the art at the time of the applicant's invention would have realized the duplication in generating a second pre-encrypted content. Bertram does not explicitly teach generating time limited entitlement messages for permitting access to the pre-encrypted content. However, Candelore teaches a system for generating time limited entitlement control messages for decrypting an encrypted content for a time limited designated duration [column 10, lines 42-67]. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of generating time limited entitlement control messages (ECM) as taught by Candelore within the system of Bertram in order to allow decryption of content for a certain period of time and further provide time limited ECMs to be used for past, present or future time period decryption of content according to assigned time periods.

9. As per claim 24, Bertram discloses a system for delivering content to a subscriber terminal on-demand through a point-to-point communication network (see for example fig 1 and paragraphs 3-5), the system comprising:

an offline encryption system having software containing one or more instructions for pre-encrypting the content to form pre-encrypted content before a content request is received from the subscriber terminal (see for example; paragraph 63);

a video on-demand system including software having one or more instructions for receiving the pre-encrypted content from the offline encryption system (see for example; storage module paragraph 41), and forwarding the pre-encrypted content to the subscriber terminal (see for example; paragraph 42);

and an encryption renewal system interfacing with the off-line encryption system to provide encryption parameters for encrypting the content (see for example; paragraph 41).

Bertram further discloses generating control messages allowing the pre-encrypted content to be decryptable for a designated duration (see for example; paragraph 63). However, Bertram does not explicitly teach and interfacing with the video on-demand system to generate time limited entitlement control messages allowing the pre-encrypted content to be decryptable for a time limited designated duration, wherein the entitlement control messages are generated by using a periodical key. However, Candelore teaches a system for generating time limited entitlement control messages for decrypting an encrypted content for a time limited designated duration [column 10, lines 42-67]. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the method of generating time limited entitlement control messages (ECM) as taught by Candelore within the system of Bertram in order to allow decryption of content for a certain period of time and further provide time limited

ECMs to be used for past, present or future time period decryption of content according to assigned time periods.

10. As per claim 5, the combination of Bertram and Candelore discloses the claimed limitations as described above (see claim 3). Bertram further discloses wherein the first key information is provided by a conditional access system (see for example; paragraph 47) that uses the key information to control the first subscriber terminal (see for example; paragraph 47; the set top terminal descrambles the content thereby prohibiting unauthorized users from viewing the encrypted content).

11. As per claim 6, the combination of Bertram and Candelore discloses the claimed limitations as described above (see claim 3). Bertram further discloses wherein the key information is for a key that is periodical and valid for a designated duration (see for example; paragraph 63).

12. As per claim 7, the combination of Bertram and Candelore discloses the claimed limitations as described above (see claim 3). Bertram further discloses wherein the designated duration is shortly before, contemporaneous with, or shortly after the first key is changed by the conditional access system (see for example; paragraph 63).

13. As per claims 8-11 and 12-13, the combination of Bertram and Candelore discloses the claimed limitations as described above (see claim 3). Candelore further discloses time limited ECMs for conveying information to a first subscriber terminal to compute a key [column 10, lines 42-55], and further discloses changing the key information after a designated duration and

retrofitting a second time limited ECM to the encrypted content and synchronizing time limited ECMs with changing of key information [column 10, lines 34-67, figure 6B and column 11, lines 1-15].

14. As per claim 14, the combination of Bertram and Candelore discloses the claimed limitations as described above (see claim 13). Bertram further discloses wherein the step of generating an encryption record is by an offline encryption system (see for example; paragraphs 46 and 63).

15. As per claim 18, the combination of Bertram and Candelore discloses the claimed limitations as described above (see claim 17). Bertram does not explicitly teach generating a third entitlement message. However, Bertram discloses pre-encryption of multiple content (see for example; paragraph 60). Therefore, one of ordinary skill in the art at the time of the applicant's invention would have realized such generating for a third content.

16. As per claims 19 and 22, the combination of Bertram and Candelore discloses the claimed limitations as described above. Bertram further discloses an expiration of the first entitlement messages (see for example, paragraph 63). Candelore further teaches permitting access to pre-encrypted content after expiration of time limited ECMs [column 11, lines 1-15].

17. As per claim 23, the combination of Bertram and Candelore discloses the claimed limitations as described above (see claim 20). Candelore further discloses retrieving entitlement control messages associated with pre-encrypted content and specifying a subscriber is authorized when the pre-encrypted program is purchased [column 11, lines 50-64].

18. As per claim 26, Bertram-Candleore discloses the claimed limitations as described above (see claim 24). Bertram further discloses providing two-way subscriber interaction between the subscriber system and the video on-demand system (see for example; fig 1).

19. As per claim 27, Bertram-Candelore discloses the claimed limitations as described above (see claim 24). Bertram further discloses limiting access to the pre-encrypted content (see for example; paragraph 47).

20. As per claim 28, Bertram-Candelore discloses the claimed limitations as described above (see claim 27). Bertram discloses different service tiers as described above. Candelore further discloses ECMs specifying the access requirements for the associated content stream (Column 10, lines 42-54). One of ordinary skill in the art at the time of the applicant's invention would have realized different ECMs for accessing different service tiers through the Bertram-Candelore combination.

21. As per claim 29, Bertram-Candelore discloses the claimed limitations as described above (see claim 28). Bertram discloses different service tiers as described above. Candelore further discloses ECMs specifying the access requirements for the associated content stream (column 10, lines 42-54). One of ordinary skill in the art at the time of the applicant's invention would have realized retrieving ECMs for accessing different service tiers through the Bertram-Candelore combination and thus specifying the tier for which the subscriber is authorized.

22. As per claims 30 and 31, the combination of Bertram and Candelore discloses the claimed limitations as described above (see claim 20). Candelore further teaches the method further comprising providing a call back mechanism [column 10, lines 41-54 and column 11, lines 1-15].

23. Claims 4, 15-16, 21, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram, US Publication 200310140340, in view of Candelore US Patent 6,363,149 B1 as applied above and further in view of Dunn et al (hereinafter Dunn), US Patent 6,154,772.

24. As per claim 4, Bertram and Candelore disclose a means of distributing content using a cable system as described above (see claim 3). Bertram is silent on the details of a second cable system. However, communication of content to multiple cable systems is well known in the art. Dunn et al discloses delivering content to multiple cable systems (see for example; fig 2 and col 2 ln 45-60) to reduce bandwidth and further gain control of distribution of cable and/or satellite content to subscribers (see for example; col 2 ln 7-31). Bertram discloses such a system communicating within a network (see for example; fig 5 and paragraphs 29-30). Communication between multiple networks is well known in the art. One of ordinary skill in the art at the time of the applicant's invention would have been able to perform pre-encryption using the system of Bertram and Candlore for a second cable system of Dunn. It would have been obvious to one of ordinary skill in the art to employ the second cable system of Dunn within the system of Bertram and Candlore because it would have provided a means of freeing bandwidth when broadcasting to multiple subscribers by offsetting transmission between different cable systems.

25. As per claims 15 and 16, Bertram-Candlore-Dunn teach the method as described above. Furthermore, Bertram discloses limiting access to the pre-encrypted content (see for example: paragraph 47). Candlore further discloses ECMs specifying the access requirements for the associated content stream (column 10, lines 42-54).

26. As per claim 21, Bertram and Candlore disclose the claimed limitations as described above (see claim 20). As for receiving, by the encryption renewal system, a second cryptographic information from the second communication system; receiving the encryption record containing parameters employed during encryption to form the pre-encrypted content, and generating for the second communication system, a second control message for providing access to the pre-encrypted content based on the second cryptographic information and the encryption record, Bertram and Candlore discloses a means of distributing content using a cable system as described above (see claim 3). Bertram-Candlore is silent on the details of a second cable system, However, communication of content to multiple cable systems is well known in the art. Dunn et al discloses delivering content to multiple cable systems (see for example; fig 2 and col 2 ln 45-60) to reduce bandwidth and further gain control of distribution of cable and/or satellite content to subscribers (see for example; col 2 ln 7-31). Bertram discloses such a system communicating within a network (see for example; fig 5 and paragraphs 29-30). Communication between multiple networks is well known in the art. One of ordinary skill in the art at the time of the applicant's invention would have been able to perform pre-encryption by repeating the means of the system of Bertram and Candlore as described above for a first cable system (see claim 20), for a second cable system of Dunn. It would have been obvious to one of ordinary skill in the art to combine the second cable system of Dunn within the system of

Bertram and Candlore because it would have provided a means of freeing bandwidth when broadcasting to multiple subscribers by offsetting transmission between different cable systems.

27. As per claim 32, Bertram and Candlore disclose the claimed limitations as described above (see claim 20). Bertram further discloses maintaining a list of a first communication system and their addressing information (see for example; fig 5 and paragraphs 29-30; such list and addressing information is needed to be able to communication with the communication system from the server/ session controller). Bertram-Candlore is silent on such maintaining for a second and third communications system. Dunn et al discloses delivering content to multiple communication (cable) systems (see for example; fig 2 and col 2 ln 45-60) to reduce bandwidth and further gain control of distribution of cable and/or satellite content to subscribers (see for example; col 2 ln 7-31). Bertram discloses such a system communicating within a network (see for example; fig 5 and paragraphs 29-30). Communication between multiple networks is well known in the art. It would have been obvious to one of ordinary skill in the art to employ the second cable system of Dunn within the system of Bertram and Candlore because it would have provided a means of freeing bandwidth when broadcasting to multiple subscribers by offsetting transmission between different cable systems.

28. Claims 25 and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram, US Publication 200310140340, in view of Candlore US Patent 6,363,149 B1 as applied above and further in view of Colligna US Patent 6,415,031 B1.

29. As per claim 33, Bertram and Candlore disclose the claimed limitations as described above (see claim 3). Bertram does not explicitly teach pre-encrypting being carried out using a

third key, and the encryption record containing information about the third key. Colligan further discloses encryption using multiple keys, wherein an encryption record contains information about the keys (see for example; 8 In 23-41). By using different keys many attacks are inhibited since once a key is obtained through an attack, the key is no longer valid. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the multiple key encryption of Colligan within the system of Bertram and Candelore because it would have increased security by inhibiting attacks through changing keys.

30. As per claim 34, Bertram-Candloer-Colligan discloses the claimed limitations as described above (see claim 33). Colligan further discloses translating the third key into the first key information (see for example; col 8 In 23-41). One of ordinary skill in the art at the time of the applicant's invention would have realized such translating must be present for providing descrambling messages of Bertram.

31. As per claim 25, Bertram-Candelore discloses the claimed limitations as described above (see claim 24). Bertram discloses a conditional access system having software (see for example; paragraphs 42 and 47). Bertram does not explicitly teach interfacing with a billing system to coordinate subscriber access to the pre-encrypted content based on a subscriber purchase. Colligan discloses a video-on-demand system comprising a conditional access system (set top box) interfacing with a billing system to coordinate subscriber access to the pre-encrypted content based on a subscriber purchase (see for example; fig 3 and col 8 In 47-57). A billing system in any video-on-demand system is well known in the art for generating revenue from a service. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Colligan within the system of Bertram-

Candelore because it would have provided a means of revenue for providing video-on-demand services.

32. As per claim 35, Bertrarn-Candelore-Colligan discloses the claimed limitations as described above (see claim 25). Bertram further discloses wherein the video on-demand system and the conditional access system of decoupled (see for example; content and asset storage and subscriber equipment, fig 1)

33. As per claims 36 and 37, Bertram-Candelore-Colligan discloses the claimed limitations as described above (see claim 25). Bertram further discloses wherein the video on-demand system and the conditional access systems comprise a first cable system, each communicably coupled to the encryption renewal system (see for example; fig 1).

34. Claim 40 is rejected under 35 U.S.C. 103(a) as being obvious over Bertram, US Publication 200310140340 in view of Candelore US Patent 6,363,149 B1 as applied above and further in view of Safadi et al (hereinafter Safadi), US Patent 6,256,393.

As per claim 40, Bertram-Candelore discloses the claimed limitations as described above (see claim 20). Bertram further discloses authorization to view the content (tiers) (see for example; paragraph 56). In such on-demand video systems, the authorization is associated with a service that is purchased in advance. Safadi discloses a means of delivering content with such subscriber tiers (see for example; col 5 ln 5-40). Safadi further discloses a subscriber tier as a means of controlling access to content wherein the tier is associated with a service and purchased in advance (see for example; col 4 ln 35-44 and col 5 ln 5-15). Such tiering is well known in the art to be used in cable systems, especially on demand systems. One of ordinary

skill in the art at the time of the applicant's invention would have realized such authorization of Bertram-Candelore to be a subscription tier through the definition of Safadi.

Response to Arguments

35. Applicant's arguments with respect to claims 1-37 and 41-42 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

36. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

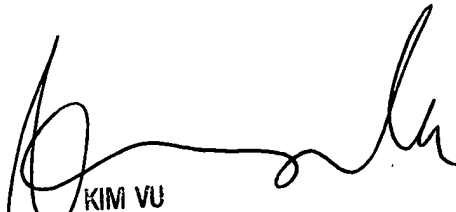
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beemnet W Dada whose telephone number is (571) 272-3847. The examiner can normally be reached on Monday - Friday (9:00 am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Beemnet Dada
December 30, 2004



KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100